Fermilab

Section Office
ES&H Section
630.840.8069 (phone)
630.840.3390 (fax)

Memorandum

February 1, 2008

To: Bruce Chrisman

From: William Griffing

Subject: Revised FESHM Chapter 8030 – Chemical Releases, Spill Preventions and Response

FESHM chapter 8030, "Chemical Releases, Spill Preventions and Response" has been revised to include updates to the previous chapter and expanded responsibilities, additional definitions and spill plan elements, and helpful links. All relevant comments from the site-wide review have been incorporated into this revision.

After final approval, please return this approval page to Elizabeth Bancroft at MS119 for posting on the web.

Encl.

Recommended for Approval:

Bruce Chrisman — Date 2/4/08

Approved:

Piermaria Oddone — Date 2/4/08

CHEMICAL RELEASES
SPILL PREVENTION AND RESPONSE

INTRODUCTION

Spills and releases of chemicals into the environment should be avoided. Releases of various substances may be subject to reporting requirements under Federal statutes including the Clean Water Act (CWA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Emergency Planning and Community Right to Know Act (EPCRA)/Superfund Amendments and Reauthorization Act (SARA) Title III, the corresponding state regulation contained in the Illinois Administrative Code, as well as DOE's Occurrence Reporting and Processing System (ORPS). Elimination of chemicals of concern is the easiest method to reduce this vulnerability. Methodologies for process assessments to identify pollution prevention opportunities are contained in FESHM 8010. In the event that a chemical of concern cannot be replaced with a less hazardous one and an accident occurs, plans shall be in place to minimize the impacts of such releases to the environment.

DEFINITIONS

Credible Spill – a spill that has the potential to release quantities of regulated chemicals that have the potential to impact the environment and warrant emergency response.

Extremely Hazardous Substances – Chemicals listed in 40 CFR Part 355, Appendix A. This list is a subset of Hazardous Substances.

Harmful Discharge of Oil – The CWA prohibits discharges of oil into or upon navigable waters or adjoining shorelines in such quantities that would violate applicable water quality standards or cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. Violations of this prohibition must be immediately reported to the National Response Center.

Hazardous Materials – Chemicals listed in 40 CFR 172.101.

Hazardous Substances – Chemicals listed in 40CFR 302.4.

Release - Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment.

Reportable Quantity (RQ) - A designated amount of a hazardous material that, if listed in 40 CFR 355 or 40 CFR 302.4 and released or spilled into the environment or listed in 49 CFR 172.101 and released as a result of an incident or accident, requires immediate notification to the National Response Center, Illinois Emergency Management Agency, and Local Emergency Planning Committee. Laboratory management and the Department of Energy have additional requirements for notification of events that can have an adverse effect on the environment. These can be found in FESHM Chapter 3010.

RESPONSIBILITIES

Division/Section Heads are responsible for:

- Assessing processes in their areas for vulnerabilities from chemical hazards and identifying opportunities for removal of these chemicals.
- Developing local spill plans for response to chemical spills and or releases from their equipment and/or in their areas when chemical hazards cannot be removed.
- Ensuring that the appropriate data on their facilities or processes is entered into the Cooling Water Discharge and Drain databases.
- Cleanup and disposal of waste associated with spills occurring in their areas.
- Making the decision to employ a remediation contractor and procurement of contractor services for events where their D/S is the responsible party. The plan for remediation must include consultation with Fermilab's ES&H Director and the landlord in cases where the landlord is not the responsible party.
- Conforming to requirements contained in FESHM 3010 for an incident occurring within their organization.

Division/Section Environmental Officer

- Coordinate development of local spill plans for response to chemical spills and or releases from their equipment and/or in their areas when chemical hazards cannot be removed.

The ES&H Director is responsible for:

- Determining whether an incident must be reported to the National Response Center, IMEA (Illinois Emergency Management Agency), and Local Emergency Planning Committee.
- Performing reporting under FESHM 3010, if necessary.
- Notifying the DOE Fermi Site Manager and the Fermilab Directorate of spills.

All Employees are responsible for:

- Being familiar with the spill plan for their areas and the hazards posed by the chemicals with which they work.

The Fermilab Fire Department is responsible for:

- Acting as "first responder" by responding to emergency calls to spill emergencies and stabilizing the situation as necessary.
- Conferring (Incident Commander) with responsible Division/Section Environmental Officer for release of authority after initial response.

PROGRAMS

Local Spill Plans shall identify potential sources of credible spills, address material handling and spill prevention training commensurate with the hazards that are present in the area. These plans shall include appropriate site-specific procedures and response equipment necessary for dealing with plausible incidents. The design of these plans shall consider the nature and quantity of the materials present, their proximity to surface water or conveyances to surface waters (eg., drains) and other pathways for contaminant migration, and a method for containing and cleaning up spills. Plans should also identify emergency procedures and necessary internal notifications. Potential disposal options shall also be addressed. The complexity and detail of the plans will depend upon the physical characteristics and volume of materials being handled, their toxicity, and the potential for release to the environment.

PROCEDURES

In the event of a spill or release, the first task is to determine whether an emergency situation exists. If there is any indication of imminent danger to personnel or the environment, call **3131** immediately. Otherwise, the decision about how to respond should be made by considering questions of the type and quantity of material released, location of the spill, medium involved, extenuating circumstances (e.g., fire, injury) and whether the spill can be effectively contained.

The following general rules should be followed in the event of a spill/release:

1. Alert other occupants and evacuate area if necessary.

2. Dial **3131** if there is a fire or injury requiring medical attention or if the size of the spill or nature of the spilled material makes it readily apparent that the situation cannot be safely stabilized using locally available resources (personnel and equipment). Do this from a safe location.

3. Control access to the spill area and, if possible without risking injury, control the source of the spill and limit the spread of contamination. Prevent releases to the environment (sanitary sewer, sinks, drains, storm sewer system, or the ground) but do not jeopardize personal safety to do so.

4. Gather as much information about the spilled material as you can. Special cases may invoke additional guidance documents (e.g., the RCRA Contingency Plan for Site 55 or the site Spill Prevention Control and Countermeasures Plan).

5. Notify the ES&H Director of any potentially reportable incidents as soon as possible.

If **3131** is called, the cognizant employees of the Divisions/Sections involved should remain available to assist the Fire Department in implementing the Emergency Response Plan.

REQUIRED ELEMENTS OF A LOCAL SPILL RESPONSE PLAN

Local spill response plans must include:

- Names and phone numbers of individuals responsible for the process to be contacted in the event of a spill. These individuals must be able to answer questions about the area and the process,
- Evacuation plans for the room or building as appropriate,
- Instructions for cleanup and decontamination of area,
- Methods for containing any spilled materials and ways to prevent potential releases to the environment (e.g., protect floor drains),
- A list of potential release routes to the environment, if applicable,
- An inventory of spill control materials and PPE that are available,
- A discussion of recommended spill cleanup methods, and
- What personal protective equipment (PPE such as gloves, respirator, etc.) and training is required.

Spill response plans should be discussed in advance with employees working in the area and appropriate training should be provided. This training should be documented.

REMEDIATION CONTRACTORS

After the initial response and containment of a hazardous material spill, Fermilab may require the services of a local remediation contractor with additional resources and/or

OSHA trained personnel to assist in the completion of the cleanup. The primary considerations for hiring a qualified contractor for a hazardous material spill cleanup can be found in the OSHA requirements at 29 CFR 1910.120(q)(1) and 29CFR1910.120(q)(6). The ES&H Section maintains a file that includes the name, address, telephone number, and a contact person for qualified contractors. This list is available from the ES&H Section webpage.